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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,323	01/16/2004	Roger L. Poe	506419-0071	8368

27910 7590 04/19/2005

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EXAMINER

COCKS, JOSIAH C

ART UNIT	PAPER NUMBER
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3749

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/759,323

Applicant(s)

POE ET AL.

Examiner

Josiah Cocks

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-105 is/are pending in the application.
- 4a) Of the above claim(s) 55-105 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/16/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I(A) (claims 1-54) in the reply filed on 1/18/2005 is acknowledged.

Drawings

2. The drawings filed 1/16/2004 are accepted by the examiner.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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5. Claims 1, 4, and 6-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 38 11 477 (“477 patent”) (cited by applicant) in view of and U.S. Patent No. 4,708,638 to Brazier (“Brazier”) (cited by applicant).

The ‘477 patent discloses a compound venturi structure and burner assembly similar to that described in applicant’s claims 1, 4, and 6-27. In particular, Brazier shows a burner assembly including a venturi cluster with at least six venturis (1, see Fig. 5) with bell shaped inlets (3), a collector (2) having an inlet end in fluid communication with the outlets of the venturis whereby fuel and induced air are intermixed to form a single stream. The ‘477 patent further discloses that the venturis are arranged as parallel tubes (see Fig. 3), and the collector (2) includes a burner tip (10) wherein the fuel and air mixture enters the combustion zone in an axial direction relative to the tip (see Fig. 5). The embodiment shown in Figures 3 and 4 illustrates a central fuel tube supplied to the collector (2) and burner tip (10).

The ‘477 patent possibly does not disclose the creation of an ultra-lean fuel mixture.

Brazier teaches a fluid fuel fired burner in the same field of endeavor as the ‘477 patent. Brazier shows a central fuel supply tube and nozzle (13 and 26) and notes when operating under low load conditions a secondary air supply may be omitted and a venturi may be supplied with a single air supply passage. Brazier further notes that the burner may employ sub-stoichiometric combustion principles. (See Brazier, col. 3, lines 43-49). As is understood in the art, employing sub-stoichiometric combustion principles would involve operation with excessive fuel (i.e. fuel rich) or excessive air (i.e. fuel lean).

Therefore, in regard to claims 134, 17-34, 47-82, 120-128, and 140-145, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the burner of the '477 patent to incorporate producing a fuel lean mixture as, under low load conditions, the production of lower flame temperature and reduced NO_x production may be accomplished with only a single air supply passage to a venturi operation at sub-stoichiometric levels (see Brazier, col. 3, lines 30-49).

6. Claims 2, 3, 5, and 28-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over the '477 patent in view of Brazier as applied to claim 1 and 21 above, and further in view of U.S. Patent No. 2,618,325 to Seitz ("Seitz") (cited by applicant) and U.S. Patent No. 3,850,571 to Zink et al. ("Zink") (cited by applicant).

The '477 patent in view of Brazier teach all the limitations of claims 2, 3, 5, and 28-54 except for the specific structure of the burner tip and relation to a central fuel tube.

Seitz and Zink et al. each teach a burner apparatus in the same field of endeavor as the '477 patent. Each reference includes a burner tip, wherein a central fuel tube extends through the tip and the tip may be adjusted to produce flames of varying shapes and characteristics, such as round and flat (see Seitz, Figs. 11 and 12) or cylindrical (see Zink et al., Figs. 8-10).

Therefore, in regard to claims 2, 3, 5, and 28-54, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the burner of the '477 patent to incorporate the burner tips of Seitz and Zink et al. for the purpose of obtaining flames shapes of desired stability, length, and diameter based on desired application (see Seitz, col. 1, line 38 through col. 2, line 35 and Zink et al., col. 1, lines 10-55).

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1-54 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 20-34 of U.S. Patent No. 6,729,874. Although the conflicting claims are not identical, they are not patentably distinct from each other because though the claims of this application are broader in scope, they are claiming the same invention as claims 20-34 of U.S. Patent No. 6,729,874.

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Conclusion

9. This action is made non-final. A THREE (3) MONTH shortened statutory period for reply has been set. Extensions of time may be available under the provisions of 37 CFR

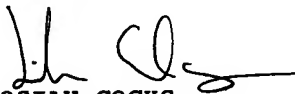
1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Josiah Cocks whose telephone number is (571) 272-4874. The examiner can normally be reached on weekdays from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ira Lazarus, can be reached at (571) 272-4877. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://portal.uspto.gov/external/portal/pair>. Any questions on access to the Private PAIR system should be directed to the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

jcc
April 15, 2005


JOSIAH COCKS
PRIMARY EXAMINER
ART UNIT 3749